
Croton yecorensis (Euphorbiaceae), a New Species from Northwestern Mexico

Victor W. Steinmann

Rancho Santa Ana Botanic Garden, 1500 North College Ave., Claremont,
California 91711, U.S.A.

Richard S. Felger

Drylands Institute, 2509 North Campbell #405, Tucson, Arizona 85719, U.S.A.

ABSTRACT. *Croton yecorensis*, a new species in the section *Medea*, is described and illustrated. This species appears taxonomically isolated, and its exact affinities are not obvious. It is endemic to a narrow zone in the Sierra Madre Occidental of extreme east-central Sonora between the vicinities of Yécora and Mulatos.

RESUMEN. *Croton yecorensis*, una nueva especie en la sección *Medea*, es descrita e ilustrada. Esta especie parece ser taxonómicamente aislada y su afinidad no es obvia. Aparentemente es endémica en una zona del borde de la Sierra Madre Occidental, en el extremo Este-Centro de Sonora entre las vecindades de Yécora y Mulatos.

Croton is a large, subcosmopolitan assemblage of at least 800 species and is most diverse in tropical to warm temperate regions worldwide (Webster, 1993). We estimate that about 100 species occur in Mexico, including 14 in the state of Sonora. During our preparation of a treatment covering the Euphorbiaceae in Sonora (Steinmann & Felger, 1997), it became apparent that a number of collections of an unusual *Croton* did not correspond with any previously described species. These collections are here proposed as a new species.

Croton yecorensis V. W. Steinmann & Felger, sp. nov. TYPE: Mexico. Sonora: Municipio de Sahuaripa, 2 km SE of airfield, ca. 4 km SSW of Mulatos, 28°37'49.1"N, 108°45'38.2"W, ca. 1380 m, oak woodland, edge of meadow and small rock outcrop of volcanic rock, 14 Oct. 1994, Felger & Búrquez 94-574 (holotype, ARIZ; isotypes, ASU, CAS, DAV, MEXU, MO, NY, RSA, SD, TEX, US, USON). Figure 1.

Frutex vel herba perennis 0.3–1.0 m alta; stipulae et bractae in lacinias glanduligeras dissectae; folia alterna, petioli 3–8 mm longi, laminae integrae, lineares vel anguste ellipticae, 3.2–7.1 cm longae, 0.4–0.9 cm latae, apice acuto, basi attenuata; margines foliorum et sepalorum

pistillatorum glandulis stipitatis; inflorescentiae bisexuales; racemi terminales vel pseudoaxillares, floribus pistillatis 1–5, staminatis usque ad 42; florum staminatorum petala luteola, stamina 10–16; flores pistillati apetalii; ovaria subglobosa, stellato-pilosa; styli 3, filiformes, bipartiti, 2.3–4.4 mm longi; capsula subglobosa, 5.0–5.6 mm longa, 4.7–5.6 mm lata; semina elliptico-oblonga, 3.8–4.4 mm longa, 2.6–2.8 mm lata, nitida, carunculata.

Monoecious, sparingly branched perennial herbs or subshrubs 0.3–1.0 m high, the branches mostly at acute angles and diverging dichotomously, stellate-tomentose nearly throughout, the rays of the stellae to 1.2 mm long; branchlets with a pale golden yellow to rust-brown cast; stipules divided into gland-tipped segments 0.5–4.1 mm long; leaves alternate, with petioles 3–8 mm long, lacking paired basal glands, pinnately veined, the midvein conspicuous, the secondary veins obscured by the indumentum, the lamina entire, linear to narrowly elliptic, 3.2–7.1 cm long, 0.4–0.9 cm wide, olive green, paler below, densely stellate-tomentose on both surfaces but more so beneath, attenuate at the base, acute at the apex, the margins often beset with stipitate glands reaching 0.7 mm long; inflorescences terminal or pseudoaxillary, bisexual, racemose, 2.5–4.8 cm long with 1–5 pistillate flowers at the base and 12–42 staminate flowers distally; bracts 1.4–3.1 mm long, divided into stipitate-glandular segments; staminate flowers on slender pedicels 1.8–3.4 mm long, calyx lobes 5, ovate, 1.7–2.1 mm long, petals 5, elliptic, 1.5–2.1 mm long, ca. 0.5 mm wide, cream yellow, villous at the base; receptacle villous; stamens 10–16, the filaments filiform, 1.5–2.0 mm long, villous at the base, the anthers elliptic, ca. 0.7 mm long, basifixed; pistillate flowers apetalous, subsessile or on stout pedicels to ca. 1.0 mm long, calyx lobes 5, valvate, lanceolate to linear-lanceolate, 3.4–6.6 mm long, acute, the margins beset with numerous stipitate glands 0.3–1.8 mm long; disk divided into glandular segments resembling the stipules; ovary subglobose, stellate-pilose; styles 3, filiform, rust-

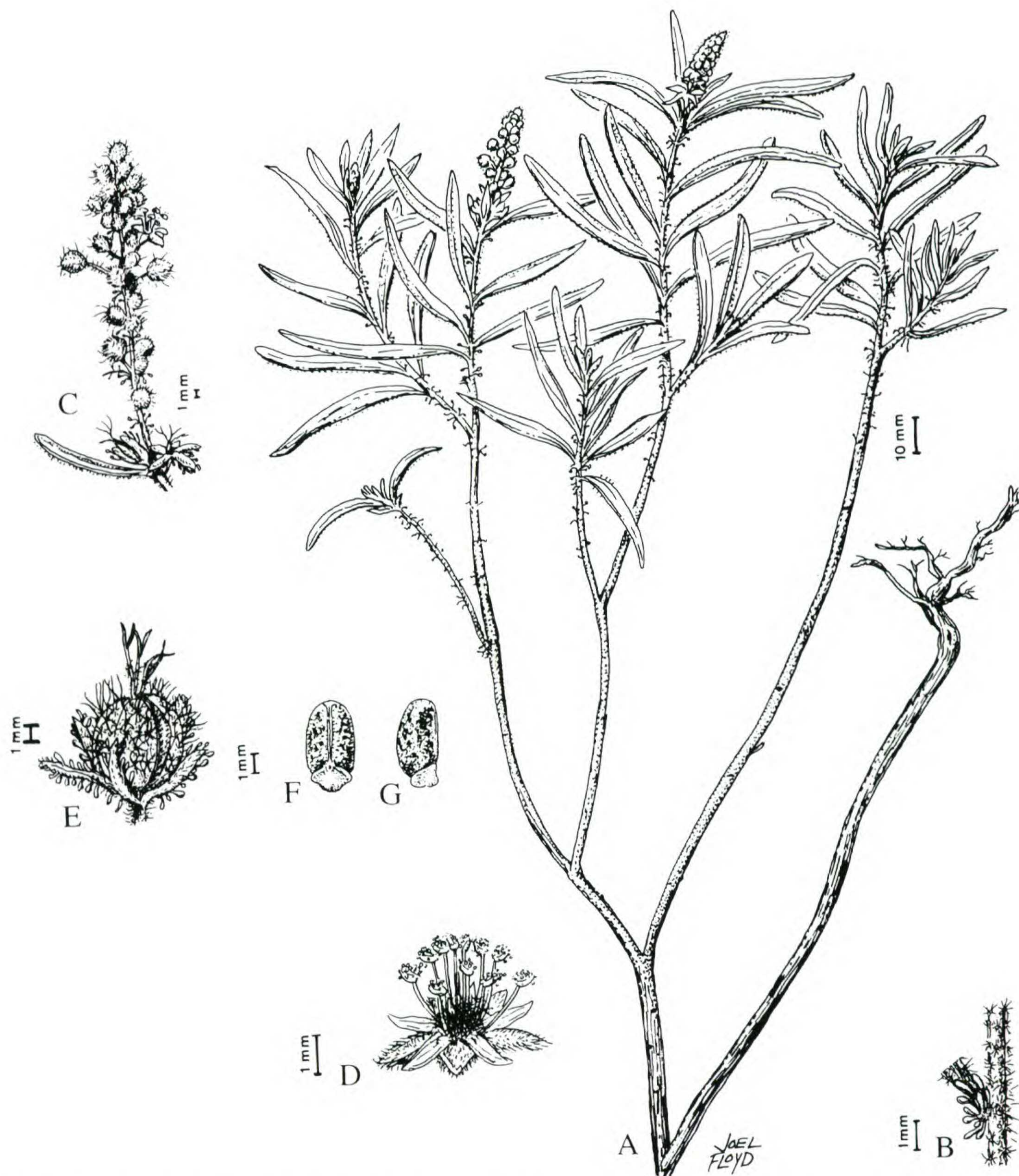


Figure 1. *Croton yecorensis* V. W. Steinmann & Felger.—A. Habit.—B. Node showing stipules and petiole base.—C. Inflorescence.—D. Staminate flower.—E. Capsule.—F. Seed, ventral view.—G. Seed, lateral view. All from Felger & Búrquez 94-574.

brown and with numerous stellate trichomes, 2.3–4.4 mm long, united at the base and biparted $\frac{1}{2}$ to $\frac{1}{5}$ their length; capsule subglobose, 5.0–5.6 mm long, 4.7–5.6 mm wide; seeds elliptic-oblong, 3.8–4.4 mm long, 2.6–2.8 mm wide, shiny, brown to mottled gray-blackish, with a fleshy, cream-yellow, reniform caruncle 0.6–0.7 mm long, 1.3–1.8 mm wide.

Distribution. *Croton yecorensis* is locally common in open, rocky, and grassy areas among oak and pine-oak woodland within the northern reaches of the Madrean floristic district of the Sierra Madre Occidental at elevations of 1260–1700 m. The collections are all within 60 km of each other in east-central Sonora near the Chihuahua border. The region is drained by the southeastern tributaries of

the Río Yaqui and perhaps also by the uppermost tributaries of the Río Mayo.

Phenology. Flowering and fruiting overlap broadly, and reproductive plants have been collected in February and from May to September.

Discussion. The exact relationship of *Croton yecorensis* to other species of *Croton* is not obvious. According to Grady Webster (pers. comm. 1997), it appears to be an anomalous member of section *Medea* (Klotzsch) Baillon. This section contains about 30 other species, all of which are restricted to South America (Webster, 1993). *Croton yecorensis* is readily distinguished from these species by its bifid (vs. multifid) styles.

Two collections (Wilson 96-235 and 96-236, both at ARIZ) from the Sierra de Cacaria in Durango, Mexico, superficially resemble *C. yecorensis* but differ in possessing a partially lepidote indumentum and in lacking conspicuous stipitate glands, although minute stipitate glands can sometimes be present on the bracts. Apparently these two collections represent another undescribed species possibly related to *C. yecorensis*.

Paratypes. MEXICO. **Sonora:** Municipio de Yécora, Río Maycoba drainage, Rancho La Pinosa, 10 km W of Río Maycoba bridge on Mexico Highway 16 and ca. 1.5 km N of highway, 28°24'46.6"N, 108°43'23.7"W, 1600 m, limestone-like rocky hills and flats with pine-oak and juniper woodland, open area, 4 July 1994, *Felger et al.* 94-237 (ARIZ, CAS, DAV, MEXU, MO, NY, TEX), 8 July 1994, *Felger et al.* 94-331 (ARIZ, DAV, MEXU, RSA); Yécora, on old road to Maycoba, 0.5 mi. E of Arroyo Yécora, 28°23.5'N, 108°54.5'W, 1550 m, open pine-oak forest, 7 Sep. 1995, *Fishbein* 2473 (ARIZ, MEXU, RSA, USON); 7 mi. W of Yécora, 5600 ft., pine-oak woodland,

5 June 1976, *Goldberg* 76-183 (ARIZ); 4.1 km (by road) NW of Yécora along the "old road" to Santa Ana/La Trinidad, 28°23'41"N, 108°56'02"W, ca. 1600 m, open oak-juniper woodland, 5 Sep. 1996, *Steinmann* 1017 (ARIZ, IBUG, MEXU, MICH, NY, RSA); Los Pilares, Arroyo los Pilares, ca. 23 km E of Yécora, 26 km W of Maycoba on Mexico Highway 16, 28°22'00"-23'30"N, 108°47'30"W, 1260-1300 m, 6 May 1995, *Van Devender* 95-469 (ARIZ, RSA, USON); ca. 7.5 km E of Yécora, 28°23'23"N, 108°52'23"W, 1620 m, pine-oak forest on rocky slope, 19 Feb. 1997, *Van Devender* 97-144 (ARIZ, RSA, MEXU); Cerro La Pirinola, ca. 8.5 road km NW of Yécora on the "old road" to Santa Rosa/La Trinidad, 28°25'40"N, 108°58'25"W, 1690 m, apparently calcareous, dry rocky hills and flats with light grass cover and scattered *Arctostaphylos*, *Quercus*, *Juniperus*, and *Dasyllirion*, shallow, gravelly soils in open areas, 4 Sep. 1995, *Wilson* 95-100 (ARIZ), 30 June 1995, *Salywon* 95-10 (ARIZ, ASU, CAS, MEXU, RSA, TEX, UC).

Acknowledgments. We thank Alberto Búrquez, George Ferguson, Mark Fishbein, Ana Lilia Reina-Guerrero, Shelley McMahon, Thomas Van Devender, and Michael Wilson for collaboration with fieldwork. Phil Jenkins, Kristen Johnson, and Lucinda McDade facilitated herbarium work at ARIZ. Joel Floyd prepared the illustration, and Ana Lilia Reina-Guerrero translated the resumen. Gordon McPherson and Grady Webster provided many useful comments concerning the manuscript. Felger's work was supported in part by the Wallace Research Foundation.

Literature Cited

- Steinmann, V. W. & R. S. Felger. 1997. The Euphorbiaceae of Sonora, Mexico. *Aliso* 16: 1-71.
Webster, G. L. 1993. A provisional synopsis of the sections of the genus *Croton* (Euphorbiaceae). *Taxon* 42: 793-823.